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10/576,562	03/05/2007	Yoon-Seob Eom	P-0775	4135

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EXAMINER	
BAUER, CASSEY D	
ART UNIT	**PAPER NUMBER**
3744	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/576,562	EOM ET AL.	
	Examiner	Art Unit	
	Cassey Bauer	3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 March 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 March 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *08/03/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim1 is objected to because of the following informalities: The phrase “heat exchange” in line 10 should read "heat exchanger". Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2 and 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by US 2,793,510 to Komroff et al., hereinafter referred to as Komroff.

In reference to claim 1, Komroff discloses the claimed invention including:

A window type air conditioner comprising:

a case (3) of which one side is positioned at an indoor side (5) and another side is positioned at an outdoor side (6);

an outdoor heat exchanger (15) mounted inside the case (3) positioned at the outdoor side thus to be heat-exchanged with the outdoor air;

an axial fan (17) opposite to the outdoor heat exchanger (15) and blowing outdoor air by a centrifugal force, see column 2 lines 25-30;

a condensate water dispersing unit (35) for dispersing condensate water collected at a lower portion of the case to a surface of the outdoor heat exchanger, see figure 2 and column 1 lines 20-26;

and a shroud (20) in which the outdoor heat exchanger (15) is mounted, wherein the shroud is provided with a condensate water guide (43, 45) for grading condensate water dispersed to an inner surface of the shroud by the condensate water dispersing unit (35) to the outdoor heat exchanger (15) see also column 3 line 70 through column 4 line 20.

In reference to claim 2, Komroff discloses the claimed invention including:

wherein the condensate water dispersing unit (35) is installed at the axial fan (17), and is rotated with the axial fan as a ring type, see figure 2.

In reference to claim 9, Komroff discloses the claimed invention:

wherein the condensate water guide (45) is constructed as a guide groove formed at an upper inner surface of the shroud (41).

In reference to claim 10, Komroff discloses the claimed invention:

wherein the guide groove (45) has a curved line shape formed in a horizontal direction with the same interval, see the outer most guide groove of figure 5.

In reference to claim 11, Komroff discloses the claimed invention:

wherein the condensate water guide (45, 43) has an inclination surface formed at an upper surface of the shroud (41) so as to guide condensate water

dispersed into an upper inner surface of the shroud (41) to the outdoor heat exchanger (15), see figure 2.

In reference to claim 12, Komroff discloses the claimed invention:

wherein the inclination surface is provided with guide grooves, see figure 2(45), with the same interval.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komroff in view of US 3,079,767 to Speaker, hereinafter referred to as Speaker.

In reference to claim 3, Komroff and Speaker disclose the claimed invention:

Komroff teaches wherein the condensate water guide (45) is constructed as guide grooves spaced at the same interval, see figure 2.

Komroff fails to teach wherein the guide grooves are formed at both lateral surfaces of the shroud.

Speaker teaches a window type air conditioner with means for distributing condensate to the coils of a heat exchanger (35), see figure 8. Speaker further teaches using baffles (38) along the lateral surface of the heat exchanger to direct the condensate along the heat exchanger in a desired manner, see column 7 lines 1-5.

Since Komroff does teach maintaining a uniform distribution of condensate on the condenser, see column 1 lines 22-27, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to place the guide grooves of Komroff along both lateral surfaces of the condenser at the same interval in order to direct the condensate to the condenser in the desired uniform manner.

In reference to claim 4, Komroff and Speaker disclose the claimed invention:

wherein the guide groove is downwardly inclined towards the outdoor heat exchanger, see Komroff column 3 line 71 through column 4 line 3 where Komroff teaches that the intermediate portion (41) upon which the guide grooves (45) are installed is inclined downwardly, and see also Speaker where the baffles (38) are inclined downwardly towards the heat exchanger. Therefore, when modifying the guide grooves of Komroff as taught by Speaker, it would have been obvious to one having ordinary skill in the art at the time of the invention, to have the guide grooves downwardly inclined towards that outdoor heat exchanger in order to have the condensate flow uniformly across the condenser by the effects of gravity alone.

In reference to claim 5, Komroff and Speaker disclose the claimed invention:

Speaker teaches that the baffles (38) are in contact with a surface of the heat exchanger, see column 7 lines 1-5. Therefore, when modifying the guide grooves of Komroff as taught by Speaker above, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to have

the guide grooves contact a surface of the condenser in order to ensure that the condensate is distributed upon the condenser at an exact location to and ensure uniform distribution of the condensate over the condenser.

In reference to claim 6, Komroff and Speaker disclose the claimed invention:

Komroff and Speaker fail to disclose wherein the guide groove is formed as a curved line shape at both lateral surfaces of the shroud between the axial fan and the outdoor heat exchanger.

Since the curved shape of the guide groove involves a mere change in the shape of the component which is generally recognized as being within the level of ordinary skill in the art, it would have been an obvious matter of design choice to one having ordinary skill in the art to have the guide grooves formed as a curved line shape at both lateral surfaces of the shroud between the axial fan and the outdoor heat exchanger in order to allow condensate to slide off the groove guides and gain the momentum necessary to break the surface tension between condensation drops and the guide groove and allow proper flow to the desired location due to the effect of gravity.

In reference to claim 7, Komroff and Speaker disclose the claimed invention:

Komroff teaches wherein the condensate water guide (43) is constructed as a guide protrusion, see figure 2, with the same interval.

Komroff fails to teach wherein the guide protrusions protrude at both lateral surfaces of the shroud in a vertical direction.

Speaker teaches a window type air conditioner with means for distributing condensate to the coils of a heat exchanger (35), see figure 8. Speaker further teaches using baffles (38) along the lateral surface of the heat exchanger to direct the condensate along the heat exchanger in a desired manner, see column 7 lines 1-5.

Since Komroff does teach maintaining a uniform distribution of condensate on the condenser, see column 1 lines 22-27, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to place the guide protrusions (43) of Komroff along both lateral surfaces of the condenser at the same interval in order to direct the condensate to the condenser in the desired uniform manner.

In reference to claim 8, Komroff and Speaker disclose the claimed invention:

Komroff teaches wherein the guide protrusion is downwardly inclined towards the outdoor heat exchanger, see Komroff figure 2 and Speaker figure 8 where the baffles (38) are inclined downwardly towards the heat exchanger. Therefore, when modifying the guide grooves of Komroff as taught by Speaker, it would have been obvious to one having ordinary skill in the art at the time of the invention, to have the guide protrusions downwardly inclined towards that outdoor heat exchanger in order to have the condensate flow uniformly across the condenser by the effects of gravity alone.

Speaker teaches that the baffles (38) are in contact with a surface of the heat exchanger, see column 7 lines 1-5. Therefore, when modifying the guide

protrusions of Komroff as taught by Speaker above, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to have the guide protrusions contact a surface of the condenser in order to ensure that the condensate is distributed upon the condenser at an exact location and ensure uniform distribution of the condensate over the condenser.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cassey Bauer whose telephone number is (571)270-7113. The examiner can normally be reached on Monday -Friday: 7-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler &. Frantz Jules can be reached on (571)272-4834 & (571)272-6681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Cassey Bauer/
Examiner, Art Unit 3744

/Frantz F. Jules/

Supervisory Patent Examiner, Art Unit 3744